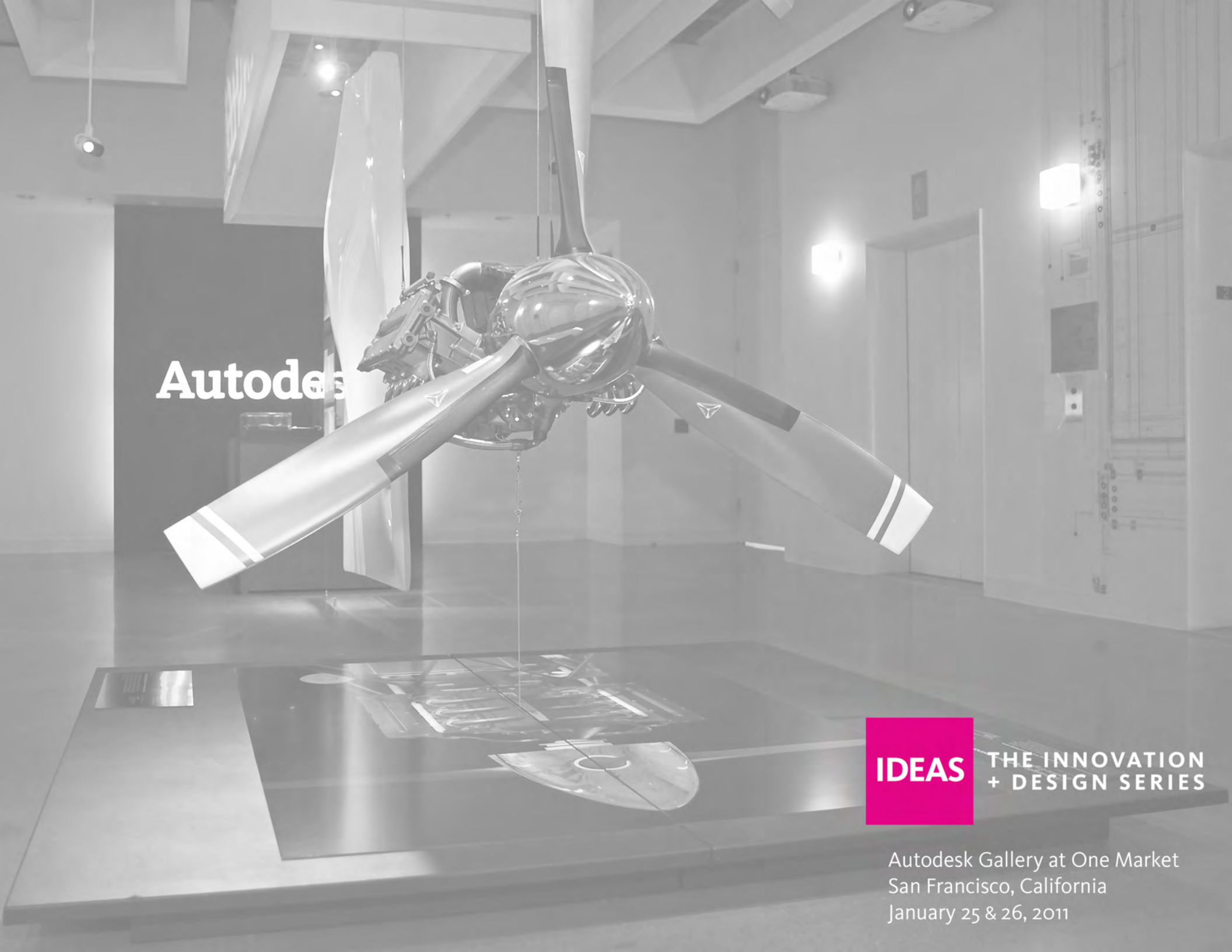




IDEAS

**THE INNOVATION
+ DESIGN SERIES**



Autodes

IDEAS

THE INNOVATION
+ DESIGN SERIES

Autodesk Gallery at One Market
San Francisco, California
January 25 & 26, 2011



What is good design?

Why is it important?

What is its value?

How are leading organizations using it to connect with customers and outmaneuver competitors?

Transcendent of specific products or technologies, **IDEAS: The Innovation + Design Series** is a gathering of transdisciplinary thought leaders for the purpose of exploring design - as a systematic approach to problem solving and innovation, encompassing form, function, and performance - and its impact on corporate and societal success.

There's nothing else like **IDEAS**.



Defining Design. Design is an activity that synthesizes multiple opportunities and constraints into an integrated, holistic, and satisfying solution. Design is pervasive: it spans the creation of beautiful objects, functional tools, the character and fabric of a city, and the telling of a visual story.

Clarifying the Value of Design. Design provides multiple dimensions of value, and good design strives to address a maximum number of dimensions simultaneously:

Economic - Growing the productivity of entire industries and regions

Social - Addressing the world's grand challenges

Business - Creating competitive separation

Environmental - Developing sustainable systems

Cultural - Expressing the values and aspirations of societies

Aesthetic - Producing products and experiences that delight their users

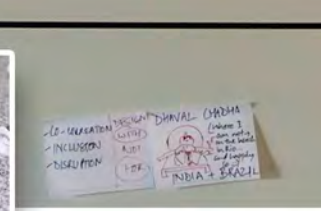
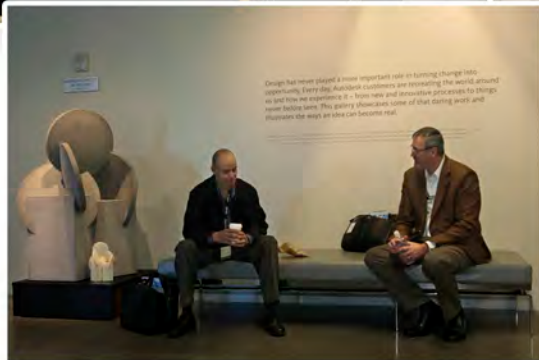
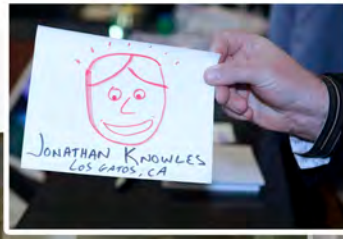


IDEAS

**THE INNOVATION
+ DESIGN SERIES**

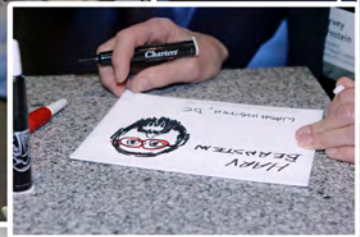
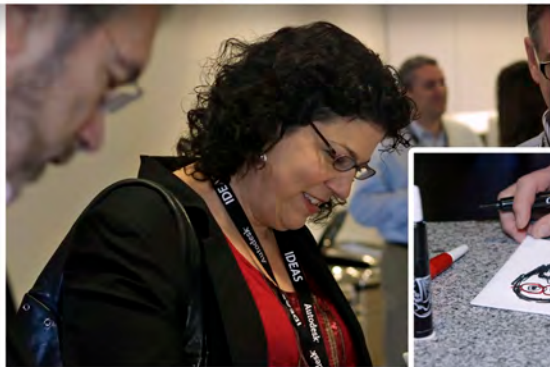
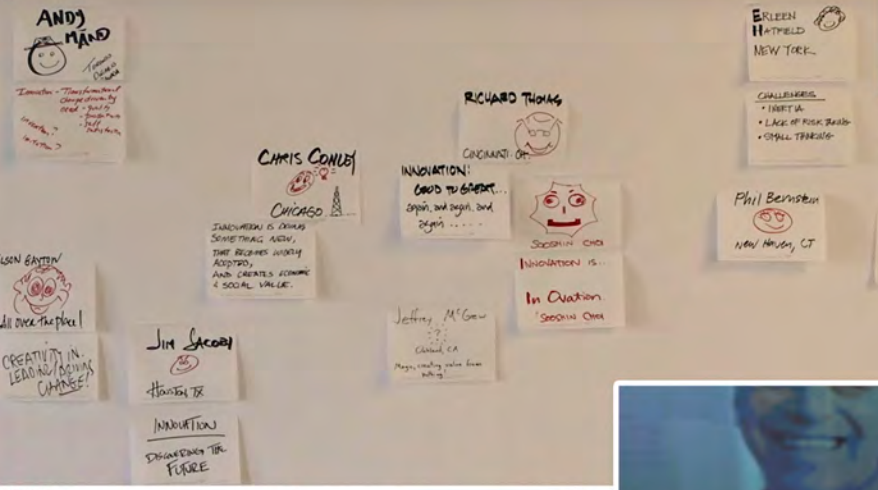
Day One

Log In + Welcome



As invited attendees arrived, they were asked to "log in" using large sticky notes. Each person created a simple portrait revealing how they were feeling about the workshop, along with their name and where they were from. On a second sticky note, participants answered the question, "What is innovation?" Each person placed their notes on the wall in rough approximation of the geographical area they were from.





IDEAS

THE INNOVATION
+ DESIGN SERIES

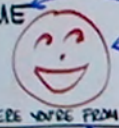
LOG IN

WELCOME!

PLEASE take 2 sticky notes!

NOTE
1

NAME



WHERE YOU'RE FROM

YOUR NAME
in black!

Draw a PICTURE
of how you feel
about this gathering
in red!

WHERE YOU'RE
FROM in black!

NOTE
2

YOUR ANSWER TO:
WHAT IS
INNOVATION?

THEN, imagine this chart is
a map of the United States.
PLACE your notes in the
area that you are from.

THANKS!

Innovation is
aligning people,
ideas, (maybe) technology
into something new

BRIAN DAVID JOHNSON
PORTLAND
OR

Innovation is
misunderstood.

GLENN ENTIS
VANCOUVER, BC (NORTH OF VANCOUVER)
INNOVATION IS
A FRESH & USEFUL
ANYTHING

GREG SMITH

INNOVATION
FINDING / CONSIDERING /
ADVENTURING NEW WAYS
OF ACHIEVING A RESULT

AARON
TAYLOR
WALNUT CREEK

OCULTURAL CHANGE
OTECHNICAL INNOVATION
OBRAINS DRAIN
OD COST ↑ QUALITY

innovation =
synthesizing
context + new ideas
to make progress.

Kevin Farahan
San Francisco

SCOTT SUMMIT
SAN FRANCISCO
INNOVATION: THOUGHT
EMERGES OUT OF PAINFUL AT
ALL AND WHICH HAVE NO
PREVIOUSLY THOUGHT-NO
PREVIOUSLY THOUGHT-NO

Dave Bleiman
San Francisco, CA

DEPLOYING INNOVATION
TO MEET A MARKET
NEED

John Pittman, SF

VALERIE CASEY
SAN FRANCISCO

Innovation.
Change that
is purpose driven.

John Bissell
Sacramento, CA

Jeff Kowalski

JONATHAN KNOWLES
LOS GATOS, CA

DOUG LOOK



AUTODESK SF

INNOVATION:
FINDING NEW APPROACHES
WAYS TO THINK ABOUT,
AND WAYS TO EXECUTE
TO EFFECT
CHANGE...

INNOVATION IS
A GOOD IDEA WITH A
BRILLIANT BUSINESS
PLAN!

L.A.

JIM MAHONEY

TALI KRACKOWSKY

?

NY

making a difference
that matters

Tom WEIR
Long Beach
CA

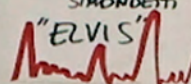
• Moved from film to digital
• Shift from linear to
personal viewing/programming

INNOVATION
THE DRIVE
FOR CHANGE

CO-CREATION
INCLUSION
DISRUPTION

DESIGN
WITH
NOT
FOR

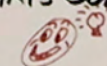
DHAVAL CHADHA
Where I
am not
on the beach
in Rio...
and hanging
so
INDIA + BRAZIL

ALVISE
SIMONDETTI
"ELVIS"


INNOVATION IS
DELIVERED
IDEAS

ANDY
MAND

Toscano
Orlando
FL
Innovation = Transformational
change driven by
need - quality
- Innovation
- Self
- Satisfaction
Innovation?
Innovation?

CHRIS CONLEY

CHICAGO 

INNOVATION IS DOING
SOMETHING NEW,
THAT BECOMES WIDELY
ADOPTED,
AND CREATES ECONOMIC
& SOCIAL VALUE.

NELSON BAYTON

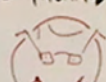
All over the place!

CREATIVITY IN
LEADING/BRINGING
CHANGE!

JIM SACCHI

Houston, TX

INNOVATION
DISCOVERING THE
FUTURE

RICHARD THOMAS

CINCINNATI, OH.

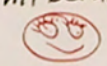
INNOVATION:
GOOD TO GREAT...
again, and again, and
again


SOOSHIN CHOI
INNOVATION IS...
In Ovation.
Sooshin Choi

Jeffrey M'Graw
?
Oakland, CA
Magic, creating value from
nothing

ERLEEN
HATFIELD
NEW YORK 

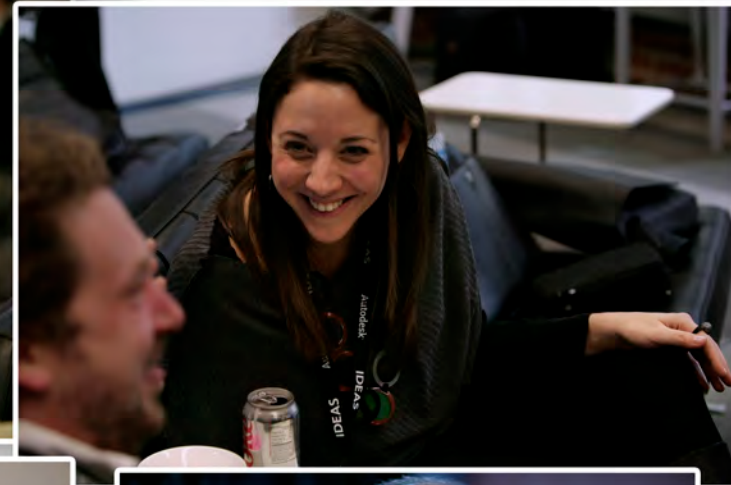
CHALLENGES
• INERTIA
• LACK OF RISK TAKING
• SMALL THINKING

Phil Bernstein

New Haven, CT

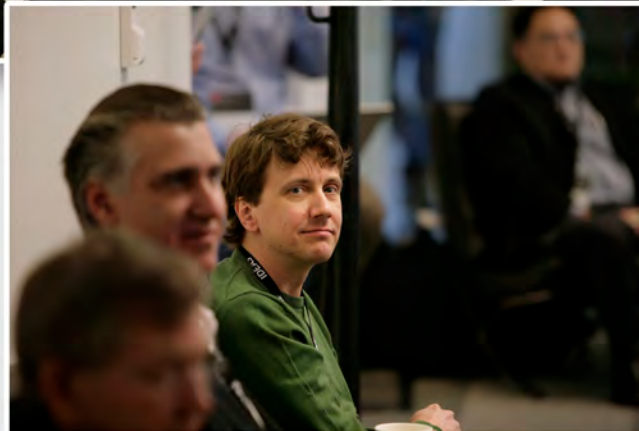
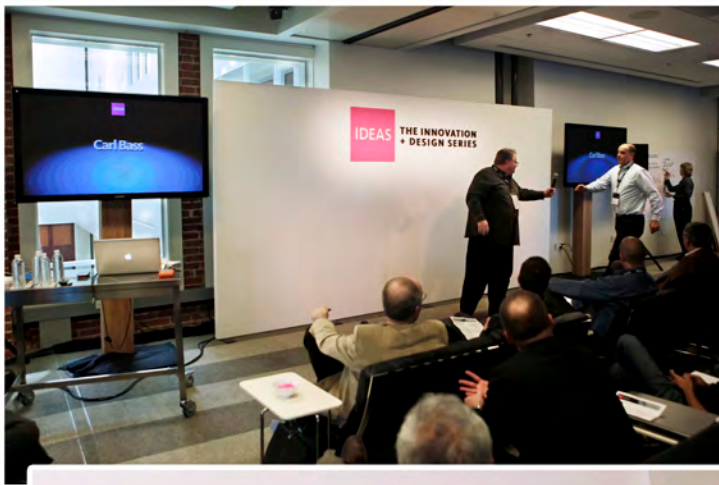
HARV
BERNSTEIN
WASHINGTON, DC
INNOVATION
RE-CREATING THE
WORLD
NEW IDEAS, NEW FUTURE,
NEW TECHNOLOGIES



Autodesk Director of Strategic Initiatives, Jonathan Knowles, welcomed the group to the workshop. He described the IDEAS workshop as a forum for great conversations among a hand-picked group of designers and thought-leaders. Mr. Knowles also introduced the official hashtag for the summit (#adskideas).



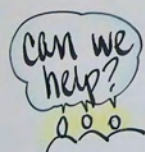
Jon Pittman, Vice President of Corporate Strategy, identified the different domains of expertise represented at the workshop.



Autodesk President and CEO Carl Bass thankfully welcomed the group and expressed his appreciation that IDEAS provides a much needed forum for extensive and open conversation around design.

Welcome!

A hand picked group
for great conversations



TAG IT:

Heather
Jana
Kerry Ann

#ADSKIDEAS



JONATHAN
KNOWLES

JON PITTMAN

Domains...
*BUILD *MEDIA *DESIGN
I had no idea!

Art...
thinking
ahead.

WHO'S
HERE?

Provocateurs.

the
lonely
ones

CARL BASS

Thank you!

there's an absence of
GOOD FORUMS
for conversation around
DESIGN

Making
ideas
visible!

①



IDEAS

THE INNOVATION
+ DESIGN SERIES

Day One
Conversations



"People think that design is styling. Design is *not* style. It's *not* about giving shape to the shell and not giving a damn about the guts. Good design is a **renaissance attitude** that combines technology, cognitive science, human need, and beauty to produce something that the world didn't know it was missing."

mentory
itive skill
rt
furred

CEO PAY

- it's a rigged system
- boards are the "oppressors" risk aversion: C.Y.A.
- Teachers → Rush Limbaugh we compare

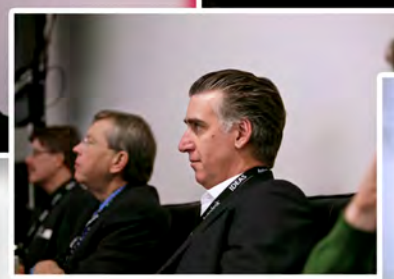
FACT = money is a motivator

PR

- Ar
- Fa
- AR
- How
- Set
- Not

"The commissioned works were rated as significantly **less creative than the noncommissioned works**, yet they were not rated as different in technical quality."

TERESA M. AMABILE, ET AL., "Person and Environment in Talent Development: The Case of Creativity," (1993)



The first day of conversations were focused on design and "design thinking". Well known author **Dan Pink** provided an inspiring keynote regarding the definition of design, and discussed motivation and management as well.



California College of the Arts faculty member Nathan Shedroff discussed employing design in a business setting. Glenn Entis of Vanedge Capital illustrated techniques to integrate design into pre-production with innovation and levity.

Conversations: **DAN PINK**

Brevity
Levity
Repetition

my DOGMA

Yahoo
iPad

MOTIVATION

SIMPLE
if → then.
mechanical
tasks.

CARROT
WORK.

A LARGER
reward =
LOWER
PERFORMANCE

If rudimentary
cognitive skill
effort
required

CEO PAY

- it's a rigged system
- boards are the "oppressors" risk aversion: C.Y.A.
- Teachers → Rush Limbaugh

\$

FACT: money is a motivator

must be paid comparably for same work

pay people enough to take \$ off the table.

PRESENTATIONS

- Are a key success factor.
- Failures + feedback = breakthrough.

ART ≠ DESIGN

How do you focus parameters?

- Self-direction is key.
- Not \$ self-deprivation.

How Choice

MOTIVATION ≠ CONSTRAINT

- Too far... defined by person, task, etc.
- Deadlines antithetical to creativity.
- Heuristic → freedom. Algorithmic = deadline

DESIGN

a renaissance attitude

what the world didn't know it was missing

human need & beauty

MASTERY

PURPOSE

AUTONOMY

TO DO: Create a workspace for work & non-commissioned design

How DO WE DO THAT?
MOTIVATION!

STUDY of ARTISTS.
commissioned + non-commissioned

freedom

passion

technically good...

Judged more highly!

commissioned non.

"just about all the good ideas..."

*20% time (actually 11%) Google.

MANAGEMENT is a technology from the 1850's to get compliance

ENGAGEMENT

*FedEx day story... do whatever... deliver on Friday

time tasks team techniques

Friday evening experiments

Intuit All the ideas for mobile came from non-commissioned time

2

IDEAS

Conversations:

NATHAN SHEDROFF

Ecological.

Personal.

EXPERIENCE!

Stories bubble up

co-create narrative

The Design M.B.A.

we're about value...

Instructors lacking VISION!

Metrics over-focus.

Big schools lagging

REFRAME

Design Thinking

Processes + Discipline

- deductive
- integrative

SKILL + DETAIL

PROCESS + INVESTIGATION

Systems thinking SUSTAINABILITY

- Principles
- Frameworks
- Tools
- Strategies

- * Performance
- * Integration

New Business LEADERSHIP

Breadth Depth. Business like an orchestra.

- * Design is critical to innovation
- * Innovation is critical to society & business.

THE SOURCE of INNOVATION!

BUSINESS CAN DO...

- Have the strategic conversation
- Don't metric to death.
- Talk to your customers.

K-12 DESIGN & play

IDEAS

Conversations:

GLENN ENTIS

DENIAL

- need to hear the bad news.

ARE WE TALKING

FUN!

death nose BENEFIT

NEED LEADERSHIP

EFFECTIVE BRAINSTORMING

- discipline
- make decisions

WE KNOW what to do... WE JUST CAN'T DO IT!

ah ha! its EMOTION & HABIT

Pre-Production STORY...

simple social fun.

work QUICKLY 15 mins...

studio leaders co-lead.

coach... leaders learn the most. drive passion. they OWN it.

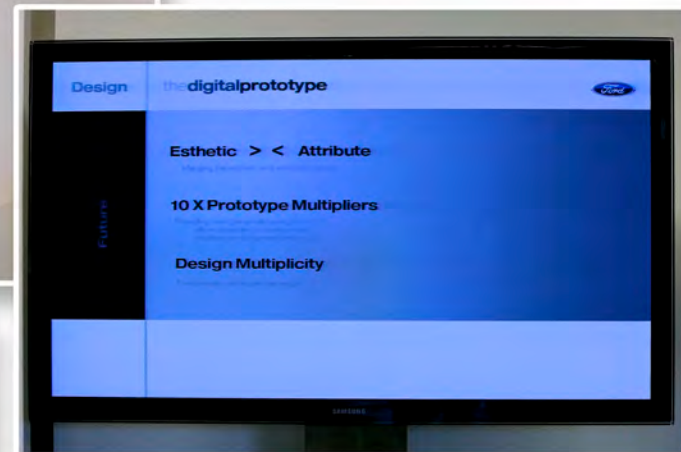
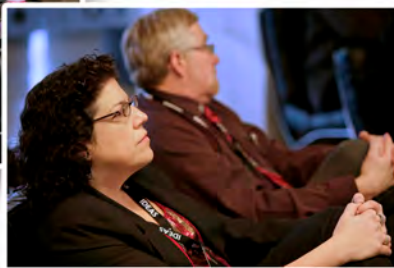
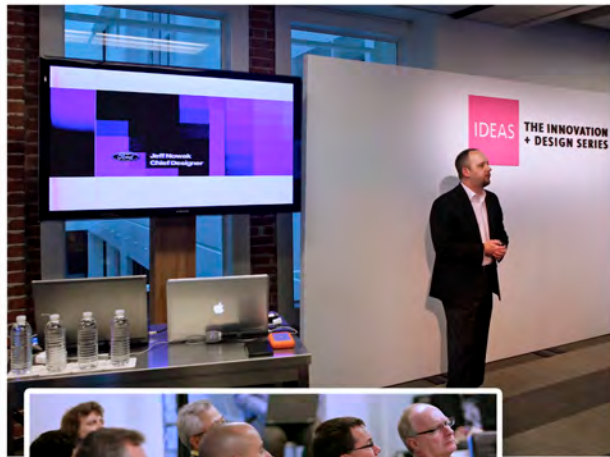
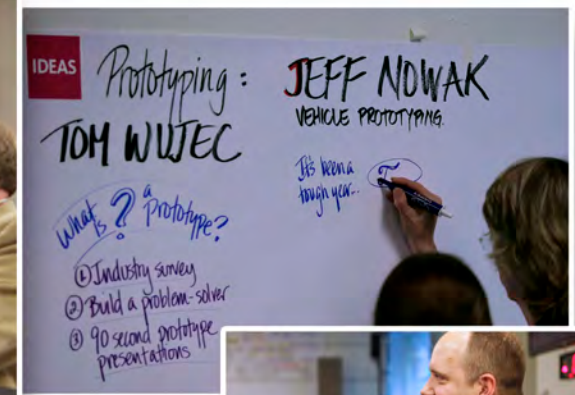
Make the conversational VISUAL.

FUN

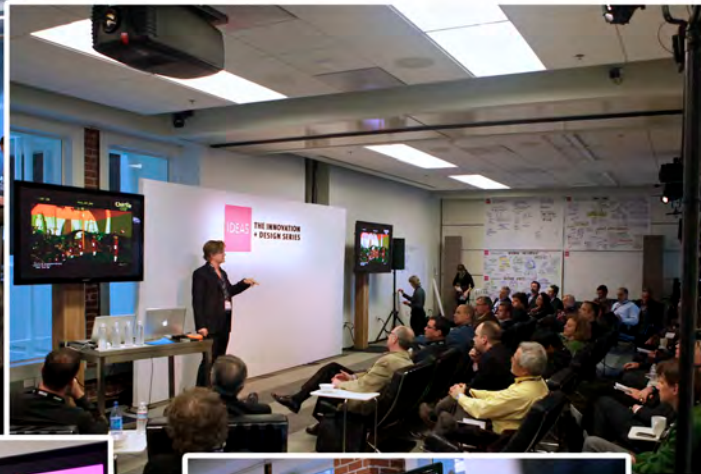
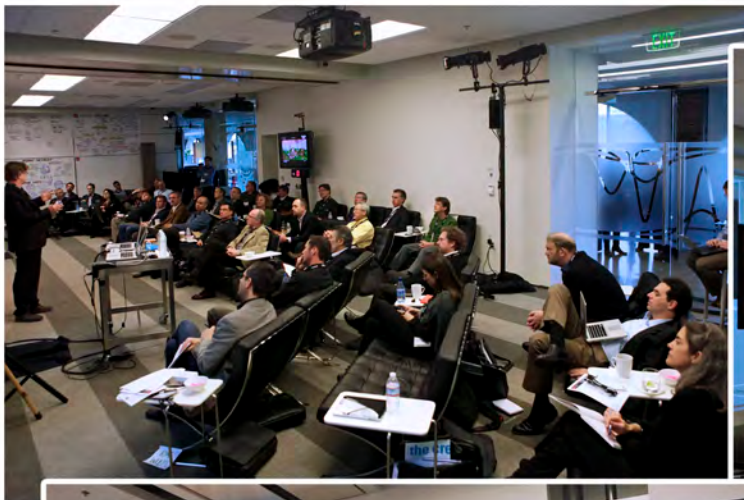
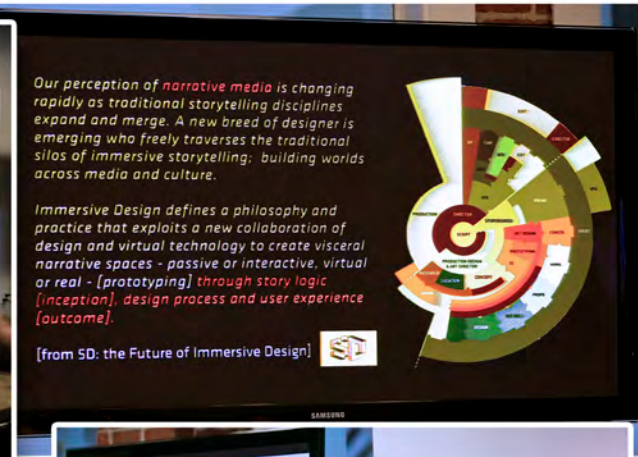
Make it professionally OK to have FUN be a master at my job.

3

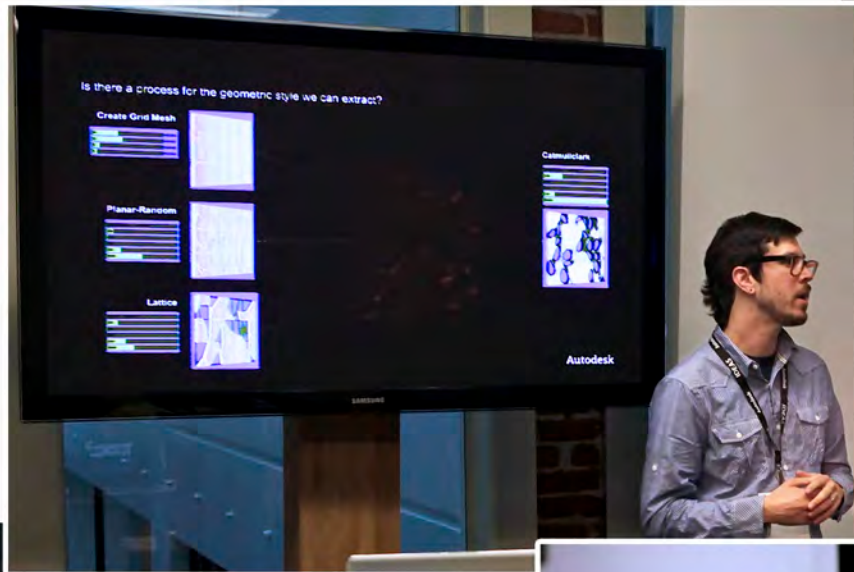
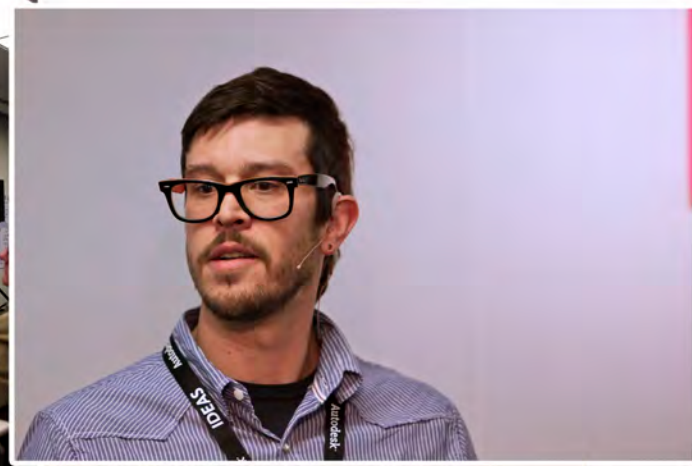
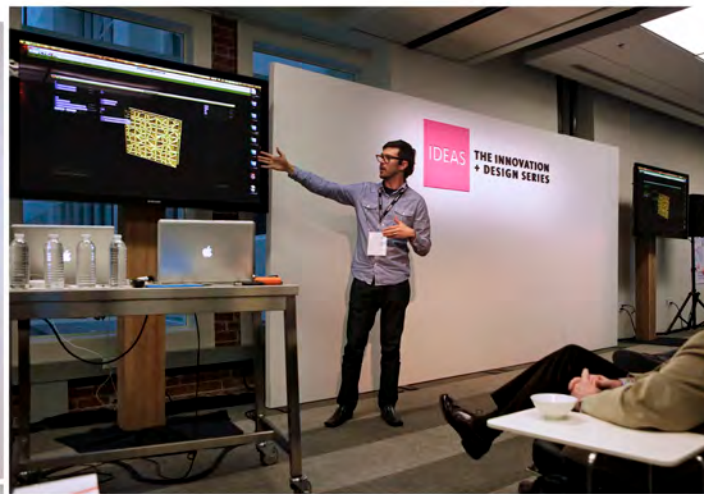




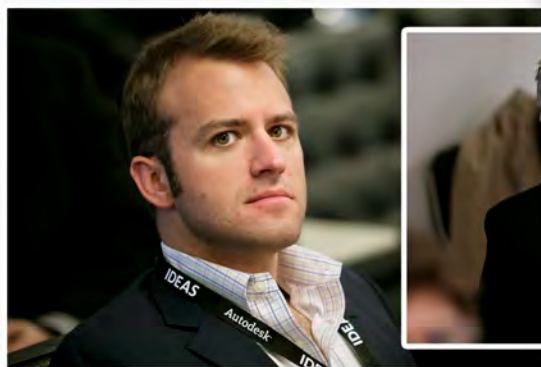
Autodesk Fellow Tom Wujec opened the next part of the workshop with an overview focused on prototyping. Jeff Nowak of Ford Motor Company described how digital prototyping is used at Ford and the changes that have occurred throughout the process.



Alex McDowell of 5D described prototyping as it occurs in the film and entertainment industry, indicating how the process of "visualization" has changed over the years, as well as projecting where it might lead to in the future.



Autodesk Research Strategist Brian Pene discussed how design can be extracted from an individual place, added to a library of styles, and be applied to different forms to rapidly create new pieces in the same style family.



Carlos Olguin, also with Autodesk research, described genetically engineered machines and synthetic biology, applying rapid prototyping to programmable matter and giving a glimpse of what the future may hold. The final prototyping conversation was led by Glenn Entis of Vanedge Capital, who illustrated how rapid prototyping is used to develop a variety of games.

Prototyping: TOM WUJEC

What's a Prototype?

- ① Industry survey
- ② Build a problem solver
- ③ 90 second prototype presentations

JEFF NOWAK VEHICLE PROTOTYPING

It's been a tough year

Ford

DIGITAL
Prototypes

authentic
theme
verification
certification
color

attributes
designing headlights
& tail lights in light
computational
models

Turnt in sun
or shade



DIGITAL MKT
RESEARCH

more stick
ability... not
2000lb cars

Realer
input
ANIMATION

TODAY
Align people
around a
vision.

Emotive
Visualization

FUTURE
→ Attributes
→ 10x prototyping
→ design multiplicity

FUTURE

Virtual reality: LCD

Q Cycle time?

- dropped 12 mos
incredible strides

Q Prototype "feel"
to drive?

- Immersive model
w/ damping/motion

Q Manufacturing
prototyping?

- Model builds... virtual
production lines

Q Also advances on
INPUT side?

- Instinct / not
research.

Next stage... visual
prototyping helps

Q Physical... attribute

- Not sophisticated
enough... Visual words,
but not mechanical
behavior

Q Relation between car + city?

- we build artificial
environments + sets.
we put competitor vehicles
in the same scene

Prototyping - ALEX McDOWELL

ENTERTAINMENT INDUSTRY

5D

cross cultural

Immersive design

using emotive narrative media to create
NEW STORY SPACES

Telling STORIES

we call it
VISUALIZATION

DESIGNER AT THE FRONT END

discover physical properties

early pre-prod
→ LAYERS of info
in painting built on data



underlay into 2D
Not endless paintings!
Model in 3D before art.

PAST: LINEAR

Set. film edit. etc.

TODAY: All at once

know your work environ
script. visual development

storyboard design viz environment
all in visual/digital space

throw it away if you don't like it!



MINORITY REPORT
BUILDING WORLDS

→ no script
→ let story evolve w/ imagery

using your hands to move imagery

virtual crane

wouldn't it be cool to do it in one spot?

16" model moving in the virtual world

upside down

Virtual Camera.

question anything...

reduce change orders

Q Parallel...
Movie industry & construction industry
better production values
save time & money

Q Creativity in a system?
→ director's dictation?
Not a limiter... table of equals

FUTURE

* ^{TODAY} intuitive stuff tracked by Excel spreadsheet

* Enter the world you imagine as you build it

software Catch-up

* ^{or} THE PITCH

look at the world I've created!

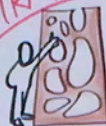
Designers aren't writers... but they can stimulate

5

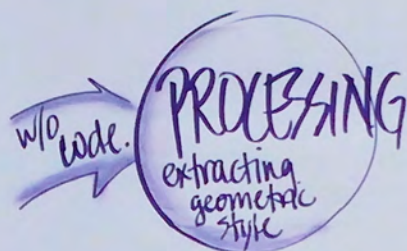
Prototyping: **BRIAN PENE**

COMPUTATIONAL DESIGN METHODS.

INSPIRATION



the WOOD ARTIST



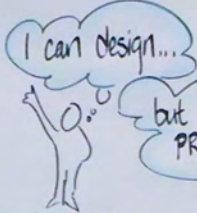
CAN WE BUILD IT?

Metz example.
feedback - ease of construction

BEYOND CODE!

FREEDOM

- to explore!
- extracting out style



but I can't PROGRAM.

apply it to

other forms (like chairs)

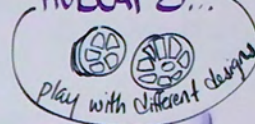
and extract out STYLES to apply to DESIGNS.

Library of styles



generative modeling language
complex shapes

HUBCAPS...

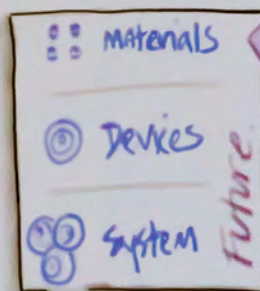


INSTANTANEOUS
feedback as
you design

Prototyping: CARLOS OLGUIN

Genetically engineered machines & synthetic biology.

80 molecules



Today

- biometric co-polymers
- MAYA
- repurpose engines to simulate

PATTERNS

Self cleaning paint

3D structures

PROGRAMMABLE MATTER



pull the transistor out... does it work?

CONVERGENCE of TRENDS

- designing kill cells for cancer
- Design
- Modify
- Print
- consuming...not designing

GLENN ENTIS

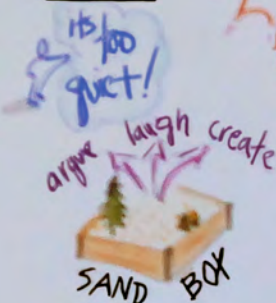
RAPID PROTOTYPING for GAMES.

STORY

I Medal of Honor to VR

DESIGN BANG

for the BUCK = RAPID PROTOTYPING...



FAST

CHEAP

FOCUSED

SOCIAL

TANGIBLE

if its cheap - you don't need permission

test a real design hypothesis

a world of verbs where people create their own story?

engage all your senses

guns wands

NIGHT GAMES



BARBIE + KEN on a stick to prototype Quidditch.

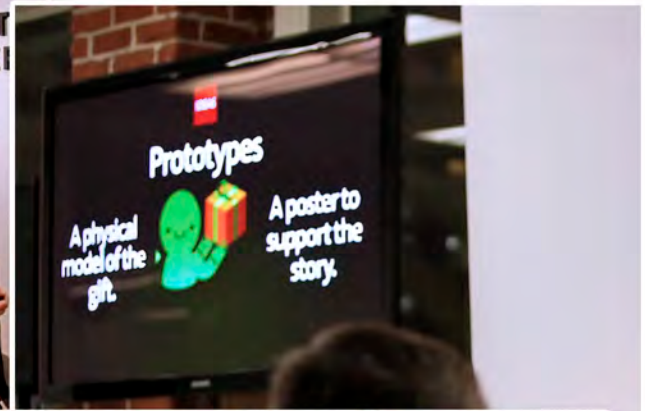


IDEAS

THE INNOVATION
+ DESIGN SERIES

Day One

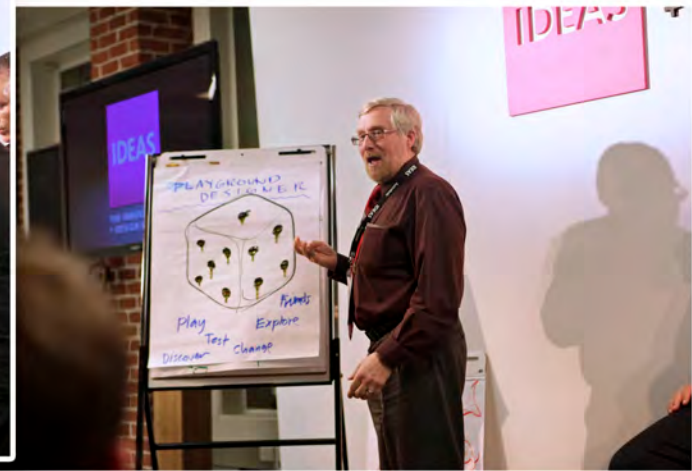
Afternoon Workshop:
Prototyping



The afternoon included a rapid prototyping competition presented by Tom Wujec, who asked the attendees to divide themselves into groups and use everyday materials to design a game that would interest a 9 year old in design. The seven groups then presented their solutions to each other, as well as a panel of judges.









The PROTOTYPING PRESENTATIONS

9 YR OLDS EXCITED ABOUT DESIGN

TEAM SALMON

OBJECT-ORIENTED LIFE CHUNKS

design your
own pet

print &
mail real
pet



- name
- lives
- eats



TEAM RED

PLAYGROUND DESIGNER



roll the dice... create
the world.

TEAM YELLOW

So you think you can dance..

DANCE with YOUR TV



Dance in front
of your TV...
it matches your
dance

TEAM GREEN

a KIT OF PARTS

we find that
LEGO is missing from our lives!
(plus you can only make 1 thing)

- physical objects become
digital spaces, creatures
- Kids tell a story
- objects are interfaces to
system

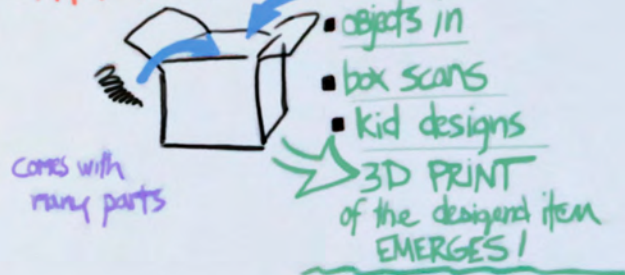


becomes a
monster



WHITE / SNOW / ZEN TEAM

the MAGIC BOX



TEAM ORANGE

the DIGITAL ZOO

- noise/sound
- touch
- know location
- programmable



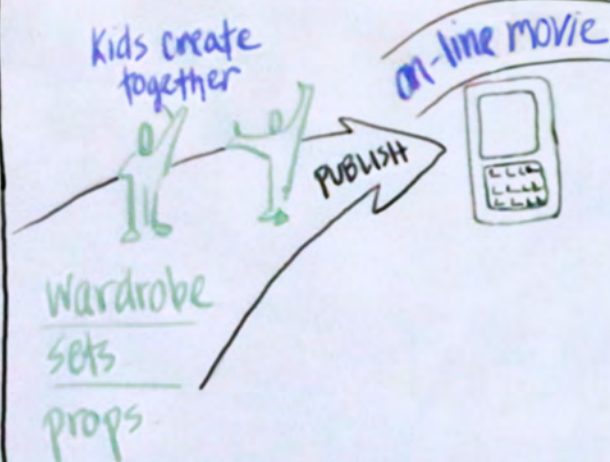
use parts to create
a prototype

✓ physical object in
digital space.

✓ kids collaborate to
create & publish!

TEAM BLUE

ADVENTURE SHARING





IDEAS

**THE INNOVATION
+ DESIGN SERIES**

Day One

Visual Fight Club



Autodesk

IT'S MYTH

20% IT WORKS

you're delusional!

MAC vs

drycleaning 20% → Byproducts!
All mythology... the whole thing cooked up in a dorm room.

you can have your own opinion. YOU CAN'T HAVE YOUR OWN FACTS!

ADSENSE makes \$\$\$ - created in 20% time!
millions and millions of people use apps created in 20% time!

"Blue Screen" & PC Feature

F1 F2 F3 F4

the only unique feature

The dance of the Mac. Elegance.

IT WORKS... ANYONE CAN USE IT IT'S BEAUTIFUL

Tom

Apple

Carl

gMail is free...

MARKET CAP \$198 → \$9 Google Autodesk

CROWD SOURCING DESIGN

HEY! we CROWDSOURCED our Logo! \$100 and we got a great logo!

we're saving the world through crowdsourcing

WE KILLED our brand BEST!

POT DROPPED the mouse - bought the car!

IT ROCKS

you CAN'T STOP THE TIDE!

Glen

Dhaval

IT SUX

The evening launched with a fast-paced series of debates known as Visual Fight Club. Contestants paired off in a no-holds-barred verbal sparring match of two-minute statements followed by rapid-fire responses and rebutals. Some of the hot topics included Mac vs PC; 20% Time: Myth or Not?; Crowd-sourced Design: Does it suck or Does it Rock?; and Design Education: Stuck or Just Fine?

PC

MAC? That's not a computer!
FORTH-BASED OS!
GADGETS! DONGLES!
OH PLEASE!
ONE button? SERIOUSLY?
It's elegant... but it doesn't FIT INTO the OUTLET!
Mmm...
the PC - "IT JUST WORKS"
Brian

STUCK DESIGN EDUCATION

the way it really works... Bauhaus
Master Apprentice
When was the last publish? not peer reviewed
Very FEW in design publishing of its POOR QUALITY
Is there an accepted THEORY of DESIGN
Scientific process = design process!
Oooh... Nathan's program is an anomaly
He's walking away from systems thinking
No institutionalised feedback loop with profession
Hugh

FINE

come back to school!
DESIGN IS vital! alive!
published work is high-quality
PROVABLE HYPOTHESES are the scientific method not the design method!
DESIGN IS based on ACTUAL EVIDENCE
NO perfection, only EVOLUTION
come on up!
Nathan
a whole school of thought IS NOT TAUGHT & BELIEVED!
we have MODELS!
we have LEADERSHIP!
it's going in the RIGHT DIRECTION!
Nathan

Kapow!



Autodesk

IT'S MYTH

20%

IT WORKS

you're delusional!

drycleaning
20% →

Byproducts!

confusing
cause with
effect.

All mythology... the
whole thing cooked
up in a dorm room.

you can have
your own opinion.
YOU CAN'T HAVE
YOUR OWN FACTS!

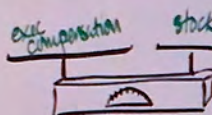
ADSENSE makes \$1 -
Created in 20% time!

millions and millions
of people use apps
Created in 20% time!

what is larger:
9? 198?
29? 1.7?

revenue...

it's a
money-
making
MACHINE!



Don

MAC vs

"Blue
Screen"
PC Feature

F1 F2 F3 F4...

the only
unique
feature

The dance
of the Mac.
Elegance

IT WORKS...
ANYONE CAN USE IT
IT'S BEAUTIFUL

Tom



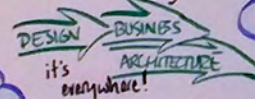
CROWD SOURCING DESIGN

HEY! we CROWDSOURCED our Logo!
\$600 and we got a great logo!
we give them access
to US markets - we
shouldn't decide if this is right for them!

we're saving
the world through
crowdsourcing

WE KNOW
our brand
BEST!

INNOCENTIVE builds around
crowdsourcing



POT DOWN the
horse, buggy -
here comes the
car!

IT ROCKS

YOU CAN'T STOP
THE TIDE!

Glenn

Carl

gMail is
free...

MARKET CAP
\$198 → \$9
Google Autodesk

AdSense
"the worse
thing that
can happen
is getting into
the advertising
bottom of
the rise"

No great products have
been crowdsourced.
Just your
brand to
someone who
doesn't know
you to create
your BRAND!

Can't
come in
final stages

\$ reward
guarantees
busy input

typical
designer...
50 projects..
adds to
Phillipine
workload.

IT SUX

Dhaval

Crack out the code
Mr. Indian...



PC

MAC? that's not a computer!

FAITH-BASED OS!

GADGETS! DONGLES!

ONE button? SRSLY?

OH PLEASE!

It's elegant...

but it doesn't FIT INTO the OUTLET!

WHY?

the PC - "IT JUST WORKS"



Brian

UAL
GHT
CLUB

STUCK DESIGN EDUCATION

the way it really works...

Bauhaus

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When was the last publish? ^{not peer reviewed}

Very FEW in design publishing & its POOR QUALITY

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It's not being taught!

No institutionalized feedback loop w/in profession

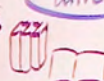
Hugh

Come back to school!



DESIGN IS vital! alive!

published work is high-quality



PROVABLE HYPOTHESES are the scientific method, not the design method!

DESIGN IS based on ACTUAL RESULTS

NO perfection, only EVOLUTION



Meet Sarah Beckner

SARAH: come on up!

a whole school of thought IS NOT TAUGHT @ BERKELEY!

Nathan

- We have MODELS!
- We have LEADERSHIP!
- It's going in the RIGHT

DIRECTION!

SARAH SEZ: "There's not actually a lot of development..." K.O. PUNCH!



FINE

Kapow!





IDEAS THE INNOVATION + DESIGN SERIES

Monday, 10 May

A 5-STAR WINE APPRECIATION & TASTING WITH A SPECIAL
EXPERIENCE FOR THE EVENING. A NIGHT OF INNOVATION
& DESIGN. A NIGHT OF THE FUTURE.

WINE & LUNCH TASTING

WINE & LUNCH TASTING

A NIGHT OF THE FUTURE WITH INNOVATION & DESIGN
A NIGHT OF THE FUTURE

IDEAS

THE INNOVATION
+ DESIGN SERIES

Day One
Dinner

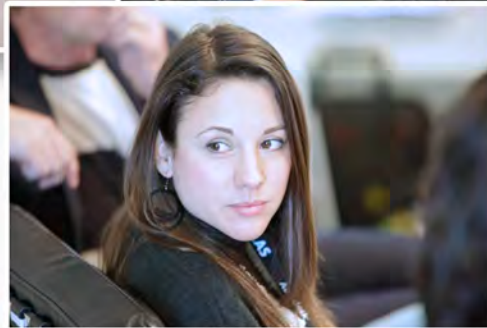
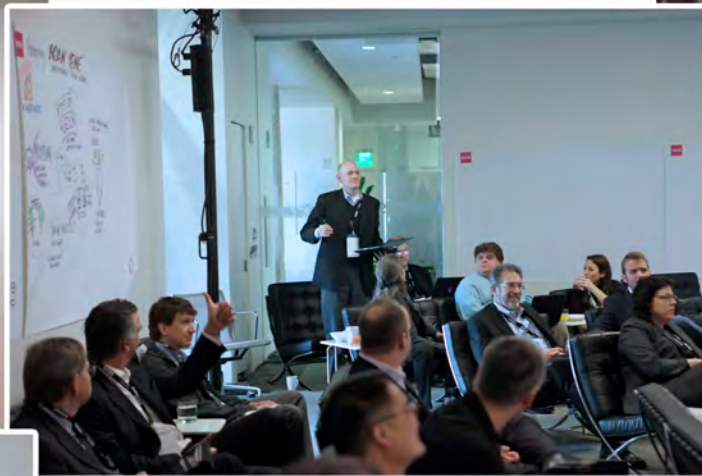




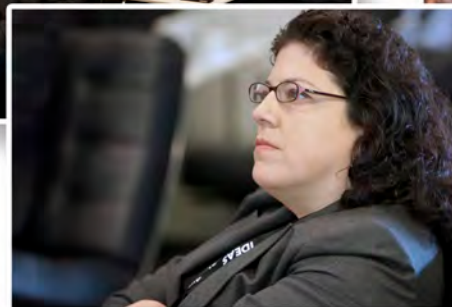
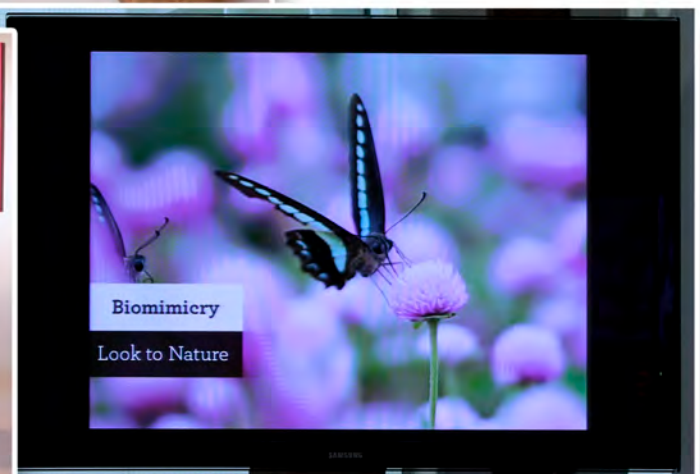
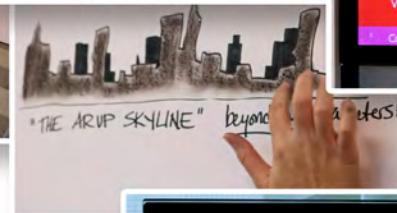
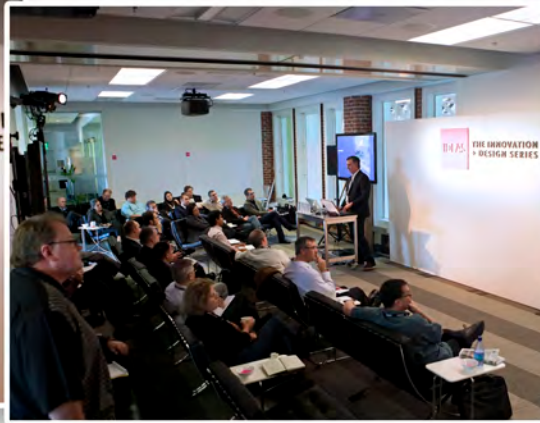
IDEAS

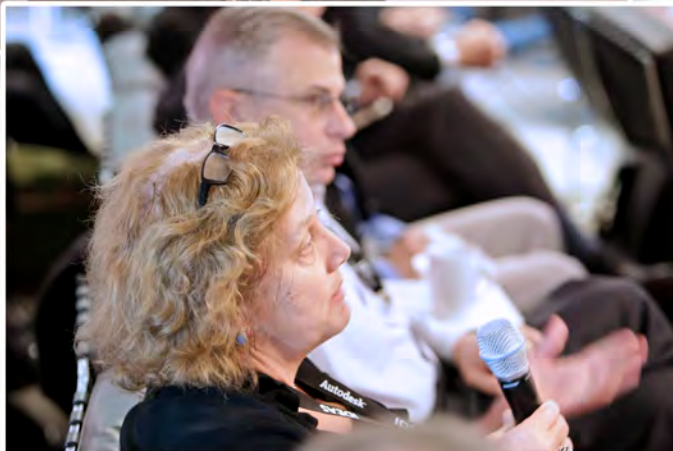
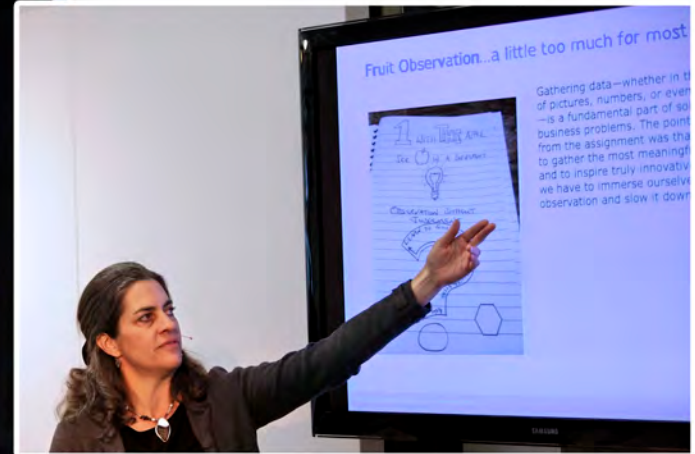
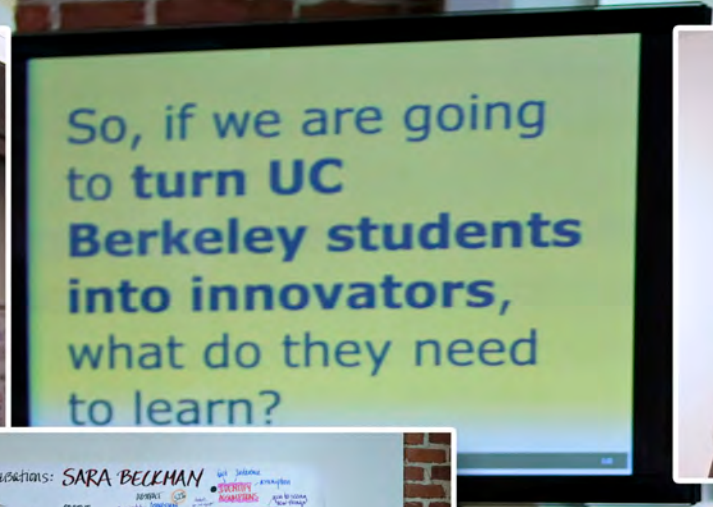
THE INNOVATION
+ DESIGN SERIES

Day Two
Conversations

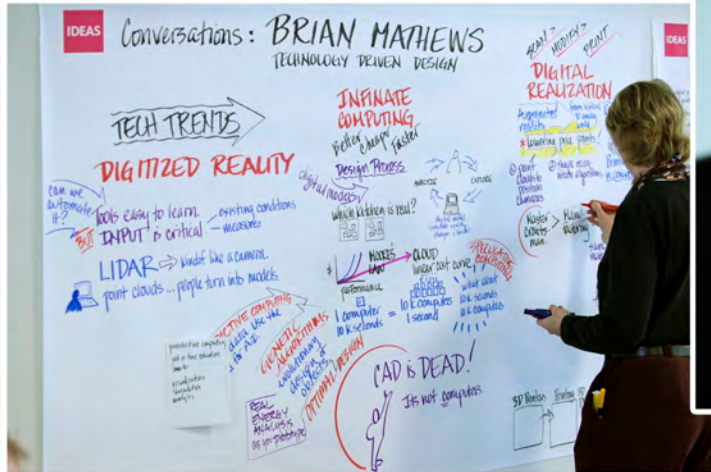


The second day of the IDEAS workshop opened with an involved discussion about insights gained the previous day. Alvis Simondetti of Arup demonstrated design and prototyping to develop architectural spaces, such as subway terminals and large buildings. Cria's Dhaval Chada spoke about design as a process of co-creation through biomimicry, and discussed building a desirable future through the process of backcasting.





Sara Beckman of the Haas School of Business shared her experiences teaching design in business school, noting that as students develop design skills, they also develop other essential skills such as observation and critical thinking.



Autodesk Labs VP Brian Mathews spoke about technology driven design, illustrating technology trends such as digitized reality, infinite computing and digital realization, and explained how they are changing the shape of design and prototyping.

DAY 2 ~ OPENING

The social elements of innovation

support
maximize

It's a
chaotic
system

INNOVATION

recognize it!

IDEA EXCHANGE

SIMILAR PROBLEMS
across industries

how do you
distribute?

DESIGN

its social/political.



**BIG
INSIGHTS**



**KEY
QUESTIONS**

Binary choice... 20%
or not. Need research
on role of constraint...

from freedom
to EXECUTION

A new way to work
20%..
first wave

AUTONOMY...

change mgmt to
work this way
EVERY DAY

work flow

Practices overlap

systems dynamics

• Biz models..
org designs

• Interdisciplinary
Value

• Rally
point

static
concrete

PROTOTYPING

Bring in early

ANALYTIC MECHANISM

dynamic

IDEAS

Conversations = ALVISE SIMONDETTI

INNOVATION TEAM: ARUP 3D TEAM



"THE ARUP SKYLINE" beyond the parameters!

How?
Alvise
Architecture expertise

FORESIGHT INNOVATION INCUBATION

Putting design into hands of all

DEMOCRATIZING DESIGN.

Hospital Navigation is key.

Rail Station Hong Kong one in 6 people go thru every day.



VR SIMULATION.

People flow simulation

"junk in... junk out"
- like water
- add directions like "walk away from smoke"

add sensory info... not just visual cues.
Working to get physics to interact.

Michelle



simulated personality - she acts like a person in virtual spaces.

IDEAS

DHAVAL CHADHA

\$1.3 trillion mkt in discretionary spending
business solutions

CO-CREATE WIN/WIN.

UNILEVER STORY

- running water access = ↑ mkt for soap.

what are guiding principles??

BIDMIMICRY LOOK TO NATURE

Coral reefs = metropolis.
- greater diversity = sustainability

MUSEUM of tomorrow SIMULATIONS

BACKCAST BUILD A DESIREABLE FUTURE

60% of world @ bottom of the pyramid

Moment in time... build from a turning point.

Conversations: SARA BECKMAN

Jim in the lonely crowd...
teaching DESIGN in
BIZ SCHOOL
CHANGE the SYSTEM.
SYSTEM
reward systems
it's tenure

STUDENT
TEACH IT YOURSELF
DESIGN CLASS...

... We need
creativity
camp with
math camp
Students w/ big rolls
of butcher paper.

Mental
model =
w/o an analytical
model it's **INVALID**.
"brainstorming
doesn't work"
Operations class.

Skepticism
thinking essence
w/o practical domain.

"I must
be great"
must learn
by practice
tough to teach
large scale

school
students
"what do you mean
I don't know how to
think?"

B school
students.

ABSTRACT 52%
Assimilating Converging
WHY How
Diverging Accommodating
2% CONCRETE
WHAT ARE WE
TEACHING?



At Autodesk
these skills are
CRITICAL!

TOOLS

fact Inference
IDENTIFY ASSUMPTIONS - assumption
open to seeing
new things

CRITICAL THINKING

OBSERVE - get out of
the building
w/ CURIOSITY
& EMPATHY

SYNTHESIZE INSIGHTS

use formal
tools?

REALLY! DIVERGE

difference
between
divergence & convergence.

LEARNING from FAILURE

Business Model Canvas
No PowerPoint!

* Why is it
SO HARD
to get these skills
into education
system?

yes! Bring it to
K-12.

* Why aren't
these skills
valued?

design thinking
wave is influence
for good.

Conversations: BRIAN MATHEWS

TECHNOLOGY DRIVEN DESIGN

TECH TRENDS

DIGITIZED REALITY

can we automate it?

tools easy to learn. **BUT** INPUT is critical. existing conditions - measures

LIDAR → kind of like a camera. point clouds ... people turn into models.

PREDICTIVE COMPUTING
J.I.I. data. Use the cloud for A.I.

GENETIC ALGORITHMS
evolutionary design of objects

**VISUALIZE
SIMULATE
ANALYZE**

REAL ENERGY ANALYSIS
as you prototype

OPTIMAL DESIGN

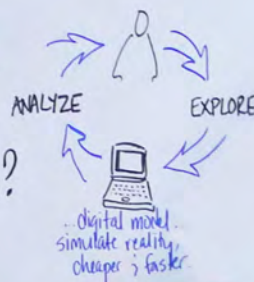
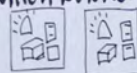
INFINITE COMPUTING

Better Cheaper Faster

Design Process

digital models

which kitchen is real?



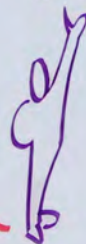
1 computer = 10 k computers
10 k seconds = 1 second

CLOUD
linear cost curve

SPECULATIVE COMPUTING
what about 10k seconds 10k computers

CAD IS DEAD!

It's not computers.



SCAN > MODIFY > PRINT

DIGITAL REALIZATION

Augmented reality

from virtual to analog world

Rapid Prototyping

* lowering price points!

① point clouds to position cameras

② shape recognition algorithms

3D Printing
Printing things in concrete!

Master craftsman.

Manufacturing

Personal manufacture
save materials
reduce waste.
personalized prosthetics

then - toolset

mindset

Now!

META DESIGN:

3D Printers

Printing

3D printer parts

...and everything else...

distribute raw materials to the point of use



IDEAS

**THE INNOVATION
+ DESIGN SERIES**

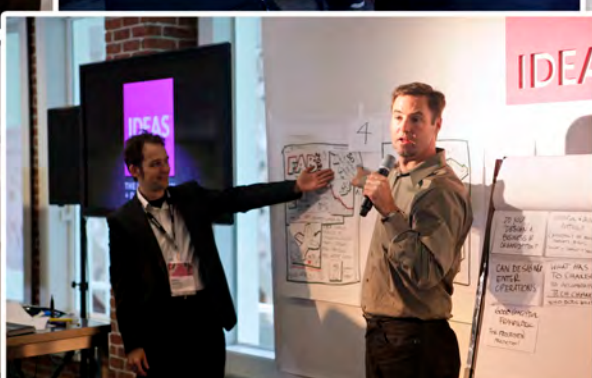
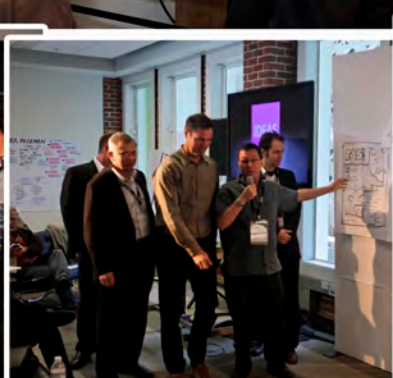
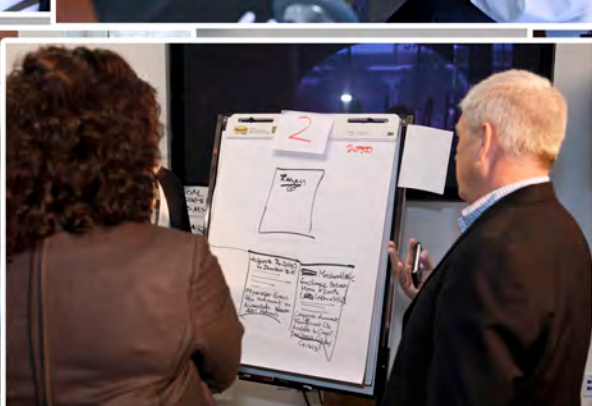
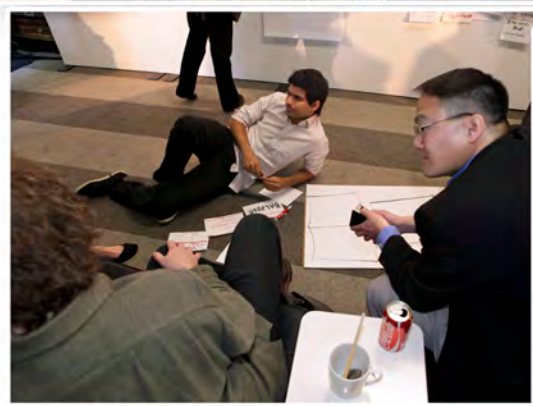
Day Two

Afternoon Workshop:
Story Work



During the Afternoon Workshop, Tom Wujec introduced Imagine Design Create, which celebrates the impact of good design and shows how designers, architects and engineers are changing our world. The participants were then invited to envision the future by designing the cover and a two-page spread from a popular magazine in 2050. The group brainstormed big issues and questions around design, then placed them into six categories. Seperate groups of participants took a category and developed a magazine layout to demonstrate what the world might look like once those issues were solved.

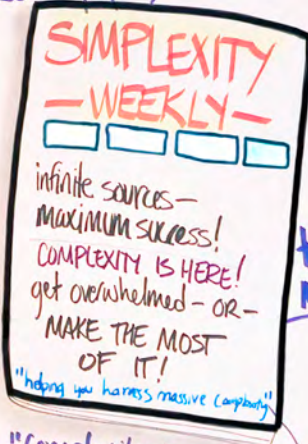




STORIES



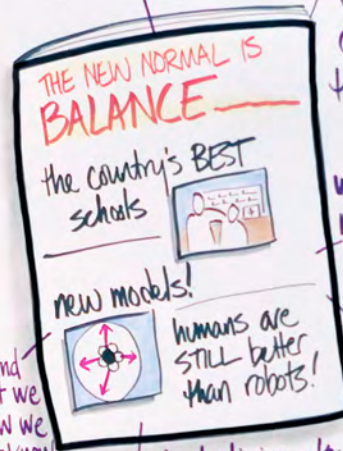
infinite connectivity!
complexity is infinite!



tracking metrics

"complexity is a statement about the observer"

deep knowledge still matters



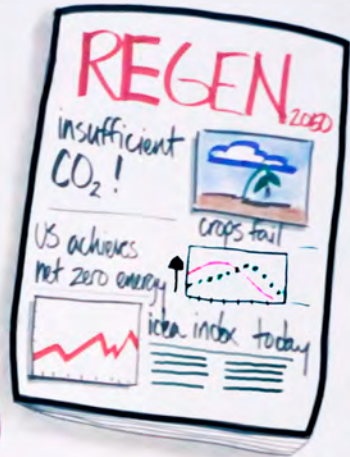
expand what we know we don't know

contextualizing = key skill

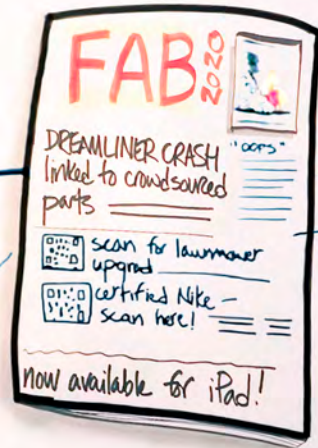
systems, creative, critical thinking

widen our networks

you can't know of own everything



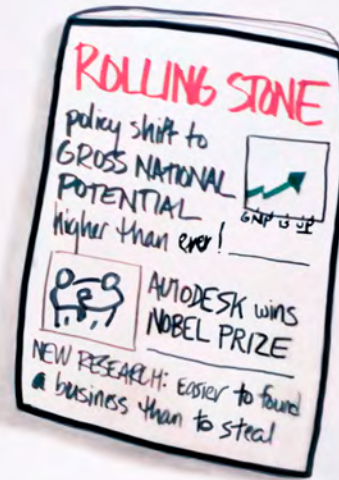
50 vacation homes you can grow! patterns inside



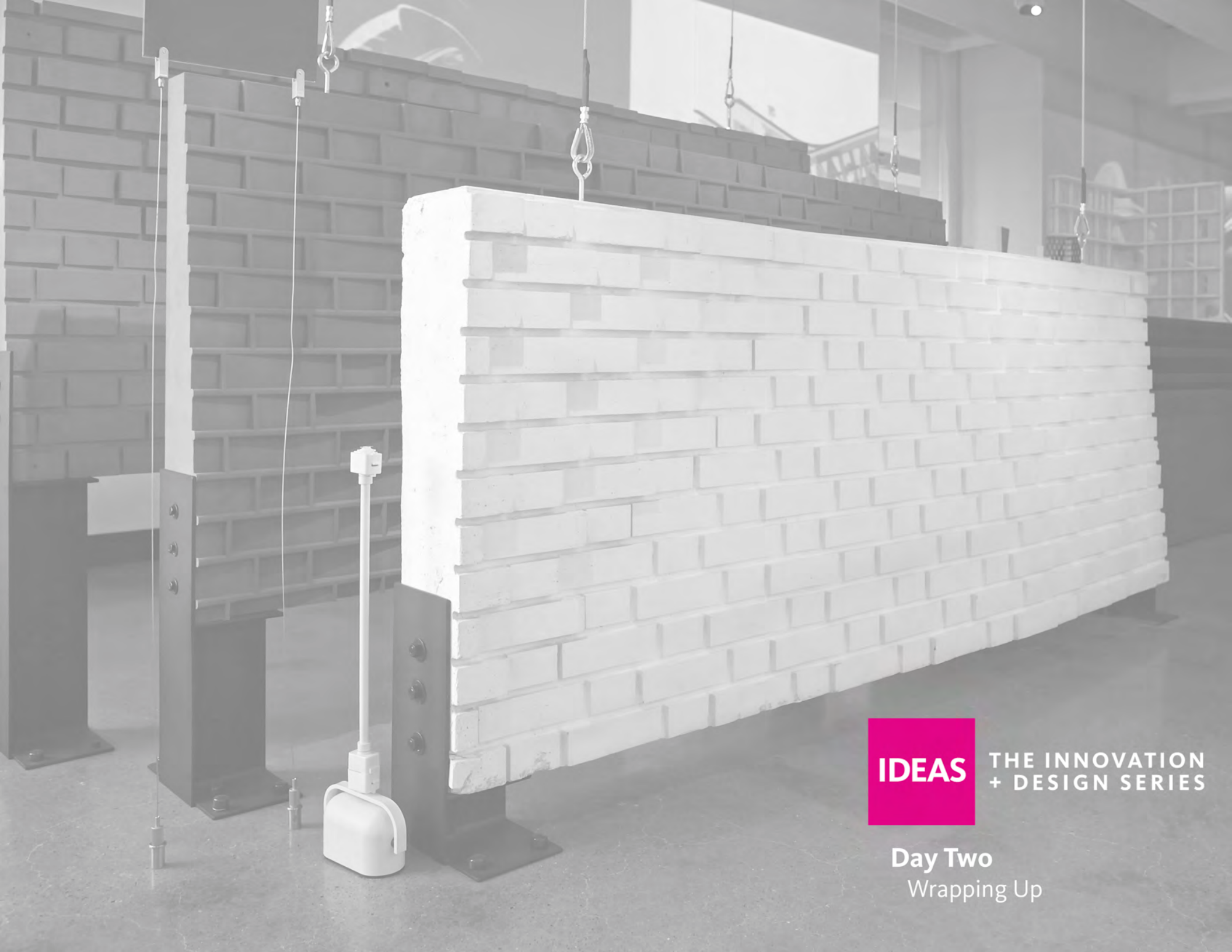
free vs. 99¢ - experts weigh in



language pattern API



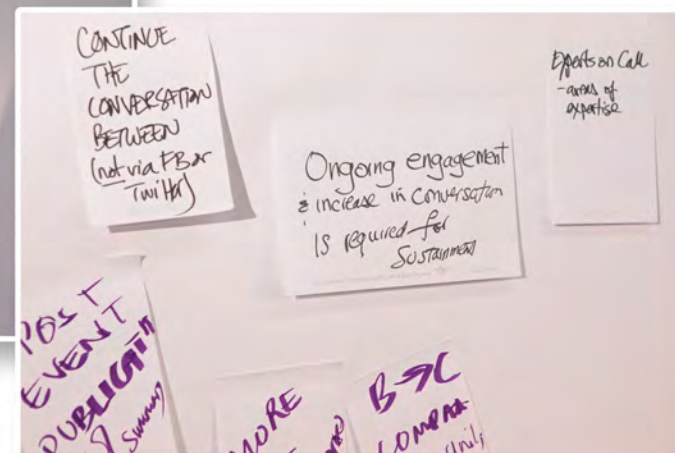
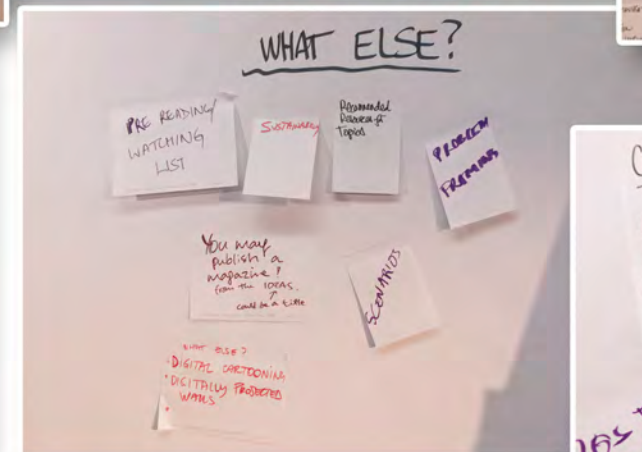
"I can't believe the US pulled it off" - CHINA



IDEAS

THE INNOVATION
+ DESIGN SERIES

Day Two
Wrapping Up



The group's final task was to evaluate the workshop and make suggestions for future meetings. The enthusiastic responses included Plus/Delta, ideas for the next summits, conference and community.

SIZE
GREAT
TOPIC
LARRY
SERGEY
GHC
PAUL
SAFFO
JANINE
FERNOS
RALPH
MERLE
TED SILE
FORMAT
Small
(For a conference)
~100-200
Attendees

VENUE
VANCOUVER!
Antwerp
SAN FRANCISCO
✓
Eames
Chaises
not-fine
Smiley face

SUMMITS
PEOPLE
MORE
INTERFACE
PEOPLE/TALKS
CARLOS
OSORIO
SOLIAN
UGARTE
DAVE
DAKEZY
PETER
SANTANOS
MATT
MEXLEY
JANINE
FERNOS
RALPH
MERLE
GHC
PAUL
SAFFO

PEOPLE
PEOPLE/TALKS
CARLOS
OSORIO
SOLIAN
UGARTE
DAVE
DAKEZY
PETER
SANTANOS
MATT
MEXLEY
JANINE
FERNOS
RALPH
MERLE
GHC
PAUL
SAFFO
ED CATHALL
WILL WRIGHT
MORE
Dance
SAME
CORE GROUP
WITH ADDED
DIMENSION

TOPIC
LARRY
SERGEY
GHC
PAUL
SAFFO
JANINE
FERNOS
RALPH
MERLE
BEHAVIORAL
ANTHROPOLOGY
TALK ABOUT
PSYCHOLOGY OF
CHANGE
Small
(For a
~100-
Attend

NEXT SUMMIT
CONTENT
BETTER
WORKSHOP
ON SUMMIT
THE COST OF
THE STATUS
QUO -
VS
LOST OF
CHANGE
DESIGN
SOFA
EDUCATION
Social implications
of design tech
What is
Meaningful?

DESIGN
SOFA
EDUCATION
MORE
STRETCH
INTO NEW
THOUGHT SPACE
FOKVI
NEXT SUMMIT
CONTENT - EXECUTIVE
ANNUAL
PEOPLE ADAPTING MEET
WORKSHOPS
Social implications
of design tech
What is
Meaningful?

YES!
PICK THE BEST
OF THE SERIES
+ PRESENT @ CONF.
DURING

DELT
BETTER
CLARITY
Larger diversity
MORE STIMULUS
TO PRESENTATION
TO ENABLE
COMPARISON
BETTER
CLARITY
Larger diversity
MORE STIMULUS
TO PRESENTATION
TO ENABLE
COMPARISON
BETTER
CLARITY
Larger diversity
MORE STIMULUS
TO PRESENTATION
TO ENABLE
COMPARISON

ON 3D
CARL BASS
IN
FLIGHT CLUB
BETTER CLARITY
+ ENFORCEMENT
OF STATUS THE
LIMITS
FUN
OPEN &
INTERACTIVE
MC
TIPS
4
CAN VORATE
Article
Group
Gather/End Product
LOVED TO FIGHT

thinkers
UBIQUITOUS
MONITORING
DESIGN & WORKFLOW
PATTERNS & LANGUAGE
BORIS
FRITZ!
ANTHROPOLOGY
TALK ABOUT
PSYCHOLOGY OF
CHANGE
HANDS-ON
TYPES

LOVED TO FIGHT
INTERACTIVE
SESSION
PROTOTYPE, PICKY CLUB, AND MORE
BROAD RANGE OF
PERSPECTIVES
WAS
INCREDIBLE
GREAT THINKERS
- GOOD FACILITATOR
BUS
SCRIBE - WALL STICKIES
DIVERSITY
OF
INDUSTRY
APPLICATIONS
- More of participants
- size of group
- variety of participants
- Consider Selecting A
Few topics to go deep
- Talk area to ACCESS
- Use influence of theme
and the audience
IC
focus

TOO
TECHNICAL
NEED MORE
CONCEPTS/METHODS
BUILD
"INNOVATION
CAPABILITY
IN ORGANIZATION
ED CATHALL
WILL WRIGHT
MORE
DOERS
LESS
THINKERS
BEHAVIORAL
ANTHROPOLOGY
TALK ABOUT
PSYCHOLOGY
OF
CHANGE

TOO
TECHNICAL
NEED MORE
CONCEPTS/METHODS
BUILD
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BEHAVIORAL
ANTHROPOLOGY
TALK ABOUT
PSYCHOLOGY
OF
CHANGE

Article
Group
Gather/End Product
MORE
CONVERSATIONS
LESS
PRESENTATIONS
NEXT SUMMIT
CONTENT - EXECUTIVE
ANNUAL
PEOPLE ADAPTING MEET
WORKSHOPS
Social implications
of design tech
What is
Meaningful?

TOO
TECHNICAL
NEED MORE
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ED CATHALL
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MORE
DOERS
LESS
THINKERS
BEHAVIORAL
ANTHROPOLOGY
TALK ABOUT
PSYCHOLOGY
OF
CHANGE

Autodesk TechShop
BUILD YOUR DREAMS HERE

IDEAS

THE INNOVATION
+ DESIGN SERIES

Day Two

Optional Group Tour:
TechShop





Autodesk®



IDEAS

THE INNOVATION
+ DESIGN SERIES



Participants

Carl Bass, Autodesk, Inc.
 Sara Beckman, Haas School of Business
 Harvey Bernstein, McGraw-Hill Construction
 Phil Bernstein, Autodesk, Inc.
 John Bissell, Micromidas, Inc.
 David Bleiman, Rutherford & Chekene
 Valerie Casey, Designers Accord
 Dhaval Chadha, Cria
 Sooshin Choi, University of Cincinnati
 Chris Conley, Gravitytank
 Hugh Dubberly, Dubberly Design Office
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